

REMARKS

The Office Action of July 17, 2006 has been received and its contents carefully considered.

The present Amendment revises independent claim 21 so as to include some of the subject matter of dependent claims 23 and 27, which are being cancelled. In addition, the Amendment revises claim 21 to provide that the tin layer is about 0.1 to about 4 μm thick. This is supported by paragraph [0071] of the application. In addition, the Amendment revises independent claim 21 by providing that an insulating resin has a thermal shrinkage factor of 4% or less. This is supported by paragraph [0081]. The present Amendment makes similar changes to claims 30-34. In particular, it cancels claims 32 and 33 and transfers some their subject matter to independent claim 30. Claim 30 is also being modified to specify that a tin layer has a thickness of about 0.1 to about 4 μm , and that an insulating film has a thermal shrinkage factor of 4% or less.

The present Amendment also revises dependent claims 22 and 31 to conform to the new wording of their independent claims, and corrects the informality in claim 28 that is pointed out at the top of page 2 of the Office Action.

The Office Action rejects claims 21 and 27 for obviousness based on patent 5,796,591 to Dalal et al and patent 5,930,597 to Call et al. These references will hereafter be called simply “Dalal” and “Call.” The Office Action also rejects dependent claim 23 for obviousness based on patent 5,421,507 to Davis et al (hereafter simply “Davis”). All three references are therefore pertinent with respect to the current formulation of independent claim 21.

When a melted Au-Sn eutectic layer is used for self-alignment, the self-aligning forces are a function of the thickness of the melted layer. None of the references, though, disclose or suggest using a tin coating that is about 0.1 to about 4 μm thick, as it is now recited in independent claim 21.

Claim 21 now also provides that an insulating layer has a thermal shrinkage factor (thermal expansion coefficient) of 4% or less. This protects the components from damage when the resin layer cools, as is explained in paragraph [0081]. This is not disclosed or suggested by Call or the other references.

Since the cited references suggest neither the tin layer thickness nor the maximum 4% thermal shrinkage factor that are now recited in independent claim 21, it is respectfully submitted that the rejection for obviousness should be withdrawn.

The Office Action also rejects independent claim 30, along with dependent claim 33, for obviousness based on Dalal, Call, and patent 5,611,481 to Akamatsu et al (“Akamatsu”). Since a part of the subject matter of dependent claim 32 (now cancelled) has been added to claim 30, it is also necessary to consider the Davis reference.

Like independent claim 21, independent claim 30 now specifies a tin layer having a thickness of about 0.1 to about 4 μm , and an insulating resin with a thermal shrinkage factor of 4% or less. Since these features are not suggested by Dalal, Call, Akamatsu, or Davis, it is respectfully submitted that the invention defined by claim 30 is also patentable over the references.

The remaining claims depend from the independent claims discussed above and recite additional limitations to further define the invention, so they are patentable along with their independent claims and need not be further discussed.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,


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